

REMARKS

Claims 1-4 and 8 are currently pending in the application. Claim 1 has been amended, and claims 5-7 and 9-29 have been cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration of the application as amended herein.

The Final Office Action mailed November 3, 2005, was been received and reviewed. Claims 1 through 29 were previously pending in the application. Claims 1 through 4 and 8 stood rejected. Claims 5 through 7 and 9 through 29 have been canceled. Applicants have amended claim 1.

Applicants filed an amendment under 37 C.F.R. §1.116 January 3, 2006.

The Advisory Action mailed February 14, 2006, has been received and reviewed. The Advisory Action denied Applicants' request for reconsideration as not placing the application in condition for allowance. The Advisory Action specifically alleges:

Ushijima discloses a sensing system (*predominantly in sensor 15*, but also including the control systems and other sensors) which measures the thickness of the layers as claimed. If one looks at Figure 10, one sees that the structure of Ushijima functions *measures the thickness of the "underlying layer" in step 801*, applies resists in step 802, *measures the thickness of the resist*, (which inherently measures the surface level of the material deposited thereup) in step 803. Therefore, Ushijima meets the functions disclosed in claim 1.

In any event, the function as disclosed above is considered irrelevant to the apparatus. As cited before, in an apparatus claim, only the structure of the apparatus is relevant, so long as the function is capable of being achieved. In this case, the structures of the platform, the sensing system, and the deposition system are disclosed in Ushijima, and *the apparatus is capable of being used to measure both the underlying height and the applied material height*. The apparatus is thus considered capable of performing the claimed method steps. (Advisory Action, Continuation Sheet; emphasis added.)

Applicants respectfully disagree with the characterization of the disclosure of the Ushijima reference. Applicants acknowledge that element 801 in Figure 10 recites, “measure thickness of underlying layer”, however, such a recitation of such text in box 801 of the flowchart of Figure 10 does not describe a structure that discloses how such a “thickness” is “measured.”

Applicants’ presently amended independent claim 1 recites:

1. A system for selectively depositing a material on a previously formed workpiece, comprising:
a platform for supporting the workpiece including a semiconductor die during a deposition process;
a sensing system configured to measure over the semiconductor die both an upper surface including a previous material previously deposited thereon and a surface level of a material deposited on the upper surface until the surface level of the material corresponds to a specific thickness of the material; and
a deposition system for depositing the material on the workpiece to the specific thickness as monitored by the sensing system. (Emphasis added.)

The Ushijima reference discloses a very different system for measuring a thickness. Specifically, the Ushijima reference discloses:

The photosensor 15 is connected to an input unit of first thickness measuring mechanism 507 through an optical fiber. As shown in FIG. 3, ***light is projected*** from the sensor 15 ***toward a margin region 4*** of the semiconductor wafer W, ***on which no chip 3 is formed.*** (Ushijima, col. 5, lines 27-32; emphasis added.)

The stepper 30 has ***second thickness measuring mechanism 37 for measuring the thickness of the resist film*** of the wafer W on the table 33. Second thickness measuring mechanism 37 ***has the same arrangement as that of first thickness measuring mechanism 507*** in the thickness measuring section 509 described above. (Ushijima, col. 6, lines 11-16; emphasis added.)

a landing ***position of beam light 7 from second thickness measuring mechanism 37 is set on a scribe-area 6***. More specifically, first thickness measuring mechanism 507 in the thickness measuring section 509 ***measures the thickness at the margin region (region on which no chip 3 is formed) 4*** of the wafer W, while second thickness measuring mechanism 37 of the exposing section 530 ***measures the thickness at the scribe-area 6 of the wafer W.*** (Ushijima, col. 6, lines 19-27; emphasis added.)

The Ushijima reference is very clear that thicknesses are measured where “no chip is formed” either (1) in the margin region or (2) in the scribe-area. In contrast, Applicants’ invention as presently claimed recites, among other things, “*a sensing system configured to measure over the semiconductor die*”. Therefore, the Ushijima reference cannot anticipate under 35 U.S.C. §102 Applicants’ invention as presently claimed. Accordingly, Applicants respectfully request the previous rejections not be sustained.

The Final Office Action mailed November 3, 2005 further rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over the Ushijima reference and further in view of Whitman et al. (U.S. Patent No. 6,642,155). The Final Office Action asserted the Whitman reference stating:

Whitman discloses that it is known in measuring the thickness during spin coating operations to utilize multiple sensors. Whitman uses to the multiple sensors to track coated and uncoated areas in order to properly coordinate the coating operation (as described in column 3). (Final Office Action, p. 3).

Even assuming, arguendo, that the Whitman reference teaches multiple sensors, neither Ushijima nor Whitman, either individually or in any proper combination, teach, disclose or motivate the claim limitations of Applicants’ invention as presently claimed to establish a prima facie case of obviousness under 35 USC §103. Accordingly, Applicants respectfully request the previous rejections not be sustained.

CONCLUSION

Claims 1-4 and 8 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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